

WHAT IS CLAIMED IS:

1. An image forming apparatus comprising:
a developing device for developing an
electrostatic image formed on an image bearing member
5 with developer including toner and carrier;
a density sensor for detecting a density of the
toner;
control means for controlling an amount of
toner to be supplied to said developing device by
10 comparing an output of said density sensor with a
target value;
changing means for changing the target value
when the output of said density sensor falls into an
error level; and
15 recovering means for supplying the toner based
on the target value changed by said changing means to
perform a recovery operation.

2. An image forming apparatus according to
20 claim 1, wherein when the output of said density
sensor falls into the error level, said changing
means changes the target value to a second target
value which is lower than a first target value which
is the target value before the output of said density
25 sensor falls into the error level.

3. An image forming apparatus according to

claim 2, further comprising an image density sensor for detecting a density of a toner image, wherein when the output of said density sensor reaches the second target value, said recovering means performs a
5 detection operation by said image density sensor, and finishes the recovery operation.

4. An image forming apparatus according to claim 3, wherein said recovering means performs
10 feedback to an image formation condition in accordance with the output of said image density sensor, and finishes the recovery operation.

5. An image forming apparatus according to
15 claim 2, wherein when the output of said density sensor reaches the second target value, said changing means changes the target value to a third target value having a level between the second target value and the first target value, and said recovering means
20 supplies the toner based on the third target value, and continues the recovery operation.

6. An image forming apparatus according to claim 2, wherein unless the output of said density
25 sensor reaches the second target value in a predetermined time, the recovery operation is stopped, and warning is given.

7. An image forming apparatus according to claim 2, wherein the following expression is satisfied:

$$V_e + (V_1 - V_e) \times 0.5 \leq V_2 \leq V_e + (V_1 - V_e) \times 0.8$$

5 where V_e is the error level, V_1 is the first target value, and V_2 is the second target value.

8. An image forming apparatus according to claim 1, further comprising an image density sensor
10 for detecting a density of a toner image, wherein said recovering means performs a detection operation by said image density sensor, and finishes the recovery operation.

15 9. An image forming apparatus according to claim 8, wherein said recovering means performs feedback to an image formation condition in accordance with the output of said image density sensor, and finishes the recovery operation.

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